## (19) World Intellectual Property **Organization**

International Bureau





(43) International Publication Date 18 August 2005 (18.08.2005)

PCT

## (10) International Publication Number WO 2005/075978 A2

(51) International Patent Classification<sup>7</sup>: C08K 5/34, C07D 491/10, 333/56

G01N 31/22,

(21) International Application Number:

PCT/EP2005/050291

(22) International Filing Date: 24 January 2005 (24.01.2005)

(25) Filing Language:

(26) Publication Language: English

(30) Priority Data:

US 60/540,558 2 February 2004 (02.02.2004) 60/564,232 22 April 2004 (22.04.2004) US

- (71) Applicant (for all designated States except US): FRESH-POINT HOLDINGS SA [CH/CH]; Rue Fritz-Courvoisier 40, CH-2300 La Chaux-de-Fonds (CH).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): LEVY, Yoav [IL/IL]; 11 Hamahteret St., 47203 Ramat Hasharon (IL). HAARER, Dietrich [DE/DE]; Hangweg 30, 95448 Bayreuth (DE).
- (74) Agent: SZELE, Ivanka; c/o Ciba Specialty Chemicals Holding Inc., Patent Department, Klybeckstrasse 141, CH-4057 Basel (CH).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TIME-TEMPERATURE INDICATOR BASED ON VALENCE ISOMERIZATIONS

(57) Abstract: The present invention relates to a time temperature indicator comprising at least one indicator compound in a first isomeric form, which is converted into a second isomeric form of said indicator compound in a valence isomerization reaction without migration of an atom or chemical group attached to said indicator compound in a time and temperature dependent manner, wherein the formation of the second isomeric form is detectable by monitoring a physical characteristic of the indicator. The present invention also relates to a method of manufacturing such a time-temperature indicator comprising the steps of (a) embedding in or atop a matrix said indicator compound; and (b) inducing the formation of a metastable state of said embedded indicator compound.

